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## Human guinea pigs and the ethics of experimentation: the *BMJ*'s correspondent at the Nuremberg medical trial

Paul Weindling

**Though the Nuremberg medical trial was a United States military tribunal, British forensic pathologists supplied extensive evidence for the trial. The *BMJ* had a correspondent at the trial, and he endorsed a utilitarian legitimization of clinical experiments, justifying the medical research carried out under Nazism as of long term scientific benefit despite the human costs. The British supported an international medical commission to evaluate the ethics and scientific quality of German research. Medical opinions differed over whether German medical atrocities should be given publicity or treated in confidence. The *BMJ*'s correspondent warned against medical researchers being taken over by a totalitarian state, and these arguments were used to oppose the NHS and any state control over medical research.**

Shortly after the close of the second world war Kenneth Mellanby, reader in medical entomology at the London School of Hygiene and Tropical Medicine, determined to "rescue the records" of German medical research during the Nazi era for evaluation by British scientists. In the period leading up to the Nuremberg medical trial in December 1946, however, visits to Germany were strictly controlled and the only way to gain entry was as a bona fide medical reporter. To this end Mellanby approached Hugh Clegg, editor of the *BMJ*, with the offer of articles on German human experiments and Clegg appointed him as the *BMJ*'s first ever foreign

correspondent. When the prosecution opened proceedings in Nuremberg on 9 December Mellanby joined the ranks of medical reporters from Germany, France, Belgium, and other nations.<sup>1</sup> Despite Mellanby's later claims to have brought German experimental records back to Britain none of these has ever been identified.

### Confidential evaluation of human experiments

The first trial of major German war criminals at Nuremberg was an international military tribunal of the four allies, Britain, France, Russia, and the United States. By contrast, the medical trial was constituted solely as a United States military tribunal, organised and paid for by the United States. Behind the scenes, however, there was considerable liaison between British army and United States medical war crimes investigators. British medical authority was represented by the forensic pathologists Professor Sydney Smith and Major Keith Mant. At a meeting with French and United States counterparts at the Hoechst pharmaceutical offices in May 1946 these investigators assembled crucial evidence on German medical atrocities. The British handed over a group of German medical captives for trial, and in November 1946 Major Mant briefed the United States prosecution's medical expert, the neurologist and Austrian emigre Professor Leo Alexander.<sup>2,3</sup> The British came round to the view that medical scientists were best qualified to evaluate human experiments as an expert tribunal in closed session. Thus whereas the trial made German medical research publicly accountable to international justice, the British plumped for confidential evaluation by professional peers.

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**Fig 1**—Professor Leo Alexander explains the results of German medical experimentation on a Polish student, Jadwiga Dzido, carried out at Ravensbrück concentration camp

#### International scientific commission

From June 1946 Lord Moran, president of the Royal College of Physicians, chaired an international commission for the investigation of medical war crimes, based at the Pasteur Institute in Paris. The commission had dual ethical and scientific functions. Moran's approach was that medical experts should evaluate German medical research according to its scientific merit. He subsequently recruited a distinguished panel of British experts, including the bacteriologist Ronald Hare, the physiologists Henry Dale and Lovatt Evans, and the psychiatrist and eugenicist C P Blacker.<sup>2 4 5</sup>

#### MORAN CONDEMNS REPORTING

As journalists and film cameras at Nuremberg alerted the world to criminal abuses of medical science, Moran roundly condemned such publicity. He criticised Professor Alexander for "journalistic activities" and for publicising the medical trial in *Life*. In February 1947 Moran fulminated to a cabinet office civil servant how "Both in America and in this country scientists of a sort are conducting private enquiries. The procedure is that they go to Germany for a short time, collect some material, and publish it with considerable advantage to themselves but with little or no profit to science."<sup>6</sup> One of Moran's targets was undoubtedly Kenneth Mellanby, who in January 1947 reviewed the trial in the *BMJ*.<sup>7</sup>

#### British stance on the principle of consent

In 1945 Mellanby had published the booklet *Human Guinea Pigs*, about British wartime scabies research at the Sorby Institute, Sheffield, on conscientious objectors who had volunteered.<sup>8 9</sup> Mellanby defended research in human biology and suspected that innocent researchers were being treated unjustly at the Nuremberg medical trial, which he regarded as of "somewhat ambiguous legality."<sup>10</sup> He defended the "serious research workers" among the accused and criticised the *Lancet* for arguing that any value for scientific progress would be outweighed by condoning systematic murder.<sup>11-13</sup> For Mellanby the idea of human experiments entailing deliberate infection did not seem to be criminal if consent had been obtained.

In 1942 Mellanby had contacted his uncle, Edward Mellanby, secretary of the Medical Research Council, suggesting that his volunteers were prepared to allow

themselves to be infected for typhus experiments. Edward Mellanby remarked, "the suggestion seems crazy." He referred the matter to Henry Dale, who replied that "If it were merely a question of vaccinating them and bleeding them to test the effect of the vaccine, I doubt whether they should be given the privilege of a rather fictitious heroism. . . . If it were a question, on the other hand, of subjecting them deliberately to a subsequent test of infection, I doubt whether it ought to be entertained, on account of the 'ballyhoo' in both directions, which would be liable to follow an inquest and unavoidable publicity." The group had already undergone deprivation of water and food on behalf of the Committee on Care of Shipwrecked Mariners. Moreover, Dale had supported the widespread distribution of new American typhus vaccines and a vaccine derived from the Pasteur Institute in Tunis in 1941 to British medical officers and asked that the effects should be monitored on an experimental basis. Thus for these MRC scientists human experiments without consent were permissible provided that the risk of death was remote.<sup>14 15</sup>

The MRC's stance on clinical research can further be illustrated by an incident in August 1945. Hans Krebs, a colleague of Kenneth Mellanby at the Sorby Institute, informed the MRC after a volunteer receiving a depleted intake of vitamin C had died of a heart attack. "Some of the volunteers come to the Institute with the express wish to take part in experiments which involve risks to life and limb. They do not wish to evade military service to get a 'soft' job. It is their intention to do something which is, in a way, comparable with military service, in that it is work for the good of the community, associated with some dangers." Krebs suggested that they were willing to sign a statement similar to one produced by Minnesota University in 1942.

The MRC's policy had not altered since 1933, when influenza trials were undertaken. The Treasury solicitor advised that liability for damages would be avoided if the patient gave full consent, that this should be given only after proper appreciation of the risks, and that any clinical trial should be performed with all due care and skill. The principle of consent was not enough to prevent criminal charges, which could be incurred for any operation not required on medical grounds which inflicted bodily injury. However, the assurance of the Director of Public Prosecutions was obtained that the risks of a criminal charge against the MRC were negligible.<sup>16</sup>

#### British research on survivors of Belsen

Shortly after the liberation of the concentration camp at Belsen the MRC authorised nutritional research on survivors. The haematologist Janet Vaughan led the team, which experimented with an American preparation of protein hydrolysate for intravenous injection (Amigen). The research terrified the former prisoners, who believed they were to receive a lethal injection:

"The majority of the patients were Russians, Poles, Yugoslavs, and Czechs—people with whom we had no common language, and to whom we could not explain what we were trying to do. Many of them were people who had come to regard the medical profession as men and women who came to torture rather than to heal. When we went up to our patients with a stomach tube they would curl themselves up and say 'Nicht crematorium.' We gradually realised that it had been the custom in the case of moribund patients to inject them with benzene in order to paralyse them before taking them to the crematorium. That attitude made treatment rather more difficult than it might otherwise have been".<sup>17</sup>

Vaughan concluded that milk flavoured with tea or coffee would have been more appropriate than the products being tested. "What these people require is simple nursing and frequent small feeds. They want to

be washed and made comfortable.”<sup>17 18</sup> In effect the camp inmates became experimental subjects for nutritionists who visited the camp to evaluate feeding methods and blood profiles.

### In praise of Nazi research

Kenneth Mellanby was scathing about conscientious objectors but respected their selfless cooperation as clinical guinea pigs. His attitude to the victims of Nazi medical crimes was less indulgent: “The victims were dead; if their sufferings could in any way add to medical knowledge and help others, surely this would be something that they themselves would have preferred.”<sup>19</sup> Mellanby questioned the prosecution’s claim that “practically no results of any value were obtained in any of the work,” commenting “From what we already know of the typhus work it is clear that a useful evaluation of the various vaccines was obtained; some of these results have already been published.”

Mellanby praised the notorious paper on typhus vaccines which an SS medical officer, Erwin Ding, published in 1943 in the *Zeitschrift für Hygiene*. This was an “important and unique piece of medical research” that “formed the basis not only of German, but also of British and allied anti-typhus policy.” Mellanby considered “for every victim of his experiments 20 000 others might have been saved.”<sup>19</sup> This reflected the arguments of the defendants at Nuremberg. Mellanby’s views had no historical basis, however, as the allies were firmly committed to using the American Cox vaccine whatever the results of any German research. As defendants eagerly cited Mellanby’s apologetics the prosecution tore Mellanby’s arguments to shreds.<sup>20</sup>

Mellanby also justified the malaria experiments of the executed malariologist Claus Schilling at what he called the “reasonably humane” Dachau concentration camp. He considered that the reported numbers of deaths—several hundred among 1000 subjects—were exaggerated.<sup>21</sup> Though agreeing that the Germans reprehensibly failed to obtain informed consent, Mellanby was convinced that the data were worth salvaging. He clung to the notion of the value of the experiments despite conceding from the testimony of victims that “little of the work had been properly planned, few of the investigators were competent, there was a lot of very inaccurate recording and even some deliberate falsification of results.”<sup>19</sup> Overall, Mellanby endorsed a utilitarian legitimisation of clinical experiments, justifying the medical research carried out under Nazism as of long term scientific benefit despite the human costs.<sup>22</sup>

### Seeds of conflicting interests: the BMA and Bevan’s NHS

Mellanby was concerned that too sweeping a condemnation at Nuremberg might endanger his scheme for an institute of human biology. At the same time he was resolutely against organised team research: “I sometimes fear that many lavishly financed and efficiently organised schemes will often be sadly sterile, for to my mind, in research inspiration and organisation by no means always go hand in hand. I hope that there will always be a place, and funds, for the individual who wishes to work in his own way, untrammelled as little as possible by the ‘red tape’ which seems to be a necessary accompaniment of any large-scale organisation.”<sup>23</sup> This reflected sentiments of the Society for Freedom in Science.

That society had been founded in 1940-1. After the war it gained influence in key journals like *Nature* as it doggedly denounced central state planning as totalitarian.<sup>24</sup> Faced by Labour government optimism about state direction of science as part of social planning, critics attacked this as ushering in a Nazi or

Soviet style totalitarianism. Biologists were alienated by Soviet suppression of genetics, and Nazi science was perceived as synonymous with state regimentation. Protecting the scientist’s autonomy meant shifting guilt for human experiments away from the scientifically trained physician seeking evidence based medicine and on to the totalitarian state. As medical critics of the National Health Service denounced “Bevan or Belsen” it seemed that British medicine might be heading towards Nazi style authoritarianism.<sup>25</sup>

An editorial in the *BMJ* diagnosed the problem as political—“the surrender, in fact, of the individual conscience to the mass mind of the totalitarian state.” This verdict exonerated medical science by blaming advocates of state medicine for any medical atrocities.<sup>26</sup> As the BMA fought the introduction of the NHS it interpreted Nazi medical crimes as the direct result of state intervention in health care. In November 1946 a BMA official observed: “It is clear from the events of the past fifteen years that material achievement and scientific progress unless harnessed to a humanitarian motive and moral dynamic become the tools of totalitarian ideologies.” In June 1947 the BMA gave its verdict on Nazi medical criminals: “Their amoral methods were the result of training and conditioning to regard science as an instrument in the hands of the state to be applied in any way desired by its rulers. It is to be assumed that initially they did not realise that ideas of those who held political power would lead to the denial of the fundamental values on which medicine is based.” The BMA prescribed an increased sense of responsibility to individual patients by the physician; this remedy implied that ethical dangers lurked in the newborn NHS.<sup>27</sup>

### Low key approach to Nazi medical crimes

As a ploy to soothe relations between the British medical establishment and the government, Lord Moran insisted on a low key approach to German medical abuses. At times he displayed more interest in costs, remonstrating that he had received 50 guineas a day for five days for going to Nuremberg as part of a medical delegation to examine Rudolf Hess. He lamented that the international commission was underpaid, suggesting that a committee based in London would be more economic. Parsimonious civil servants eagerly accepted a solution of a nominal honorarium that combined economy with expediency.<sup>28 29</sup>

Moran summed up in five pages the expert evaluations of German medical research in the Nazi era.<sup>30</sup> By contrast, the trial generated over 50 bulky volumes of evidence, condensed into two volumes published by the United States government.<sup>31</sup> From the prosecution’s opening speech to the concluding Nuremberg code requiring informed consent, the trial-revised moral underpinnings for clinical research.<sup>32</sup> Moran marginalised French demands for ethical evaluation on the international commission. Moran’s conciliatory stance on the NHS led to his appointment as chairman of the merit awards panel in 1949. At the same time he played down the Nuremberg medical trial for fear that it might undermine public confidence in British medicine.

### Individual research threatened by democracy

Whereas Moran remained somewhat sceptical of medical research as “medicine without patients,” Mellanby advocated experimental medicine. He regarded the medical scientists prosecuted at Nuremberg as victims of a coercive totalitarian state. Though he conceded that much of their science was substandard, the moral issue was to keep the state from interfering in research. Resistance to public scrutiny was symptomatic of a broader resistance to the socialisation

of medical services and to their modernisation on the basis of state funded and organised scientific team research.<sup>33 34</sup> For Mellanby the processes of democratising and modernising medicine were a threat to the individual freedoms of clinical researchers. Whereas debate on the trial passed into obscurity, the position advocated by Mellanby became an entrenched orthodoxy: medical researchers were keen to take public or charitable funds on condition that there should be as little scrutiny as possible of their privileged clinical position or research practices.

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## Health sector response to security threats during the civil war in El Salvador

Paula E Brentlinger

**During the recent civil war in El Salvador, as in other modern wars, human rights abuses adversely affected health workers, patients, and medical facilities. The abuses themselves have been described in reports of human rights advocacy organisations but health sector adaptations to a hostile wartime environment have not. Agencies engaged in health work during the civil war adapted tactics such as training of community based lay health workers, use of simple technology, concealment of patients and medical supplies, denunciation of human rights abuses, and multilevel negotiations in order to continue providing services. The Salvadorean experience may serve as a helpful case study for medical personnel working in wars elsewhere.**

The recent civil war in El Salvador was notorious for human rights abuses, which affected sick and wounded people, lay and professional medical personnel, and relief workers. The health related human rights problems of the war, often termed "abuses of medical neutrality," were periodically reported by medical professionals and human rights advocates<sup>1-6</sup> and were described in medical memoirs.<sup>7 8</sup>

There have been few published accounts of the means by which medical personnel and others sought to preserve war threatened health services in El Salvador. As this information might prove useful to others working in similar circumstances I describe my observations and review information from published reports.

### Dangers faced by health workers and patients

Certain difficulties experienced by medical personnel and patients served the strategic ends of the parties to the Salvadorean conflict. In general, health workers became targets when their activities were interpreted as logistical or moral support to the opposing party, and patients became targets when they were suspected of being enemies or enemy sympathisers. Patterns of abuse were thus detectable. The box lists the most common categories of violations. The scheme<sup>9</sup> is based on the 1949 Geneva conventions and the additional protocols of 1977.<sup>10</sup> In most reported episodes the armed forces of the government of El Salvador were the perpetrators and medical personnel or patients suspected of having guerrilla sympathies were the victims.

Of note is that medical personnel and patients who consciously sought to preserve their neutrality or impartiality were not spared. An impartial health worker might be defined as one who adheres to international standards of medical ethics in wartime<sup>11</sup>—for example, by providing medical services strictly on the basis of need rather than according to political criteria. In general, a neutral patient or health worker is legally defined as one who does not engage in belligerent acts and therefore must not be attacked militarily.<sup>12</sup> Both terms have been the subject of recent debate.

### Characteristic problems by sector

Health services in El Salvador during the war were provided by four principal types of institutions. On the

#### El Salvador

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